

Pump Room Alarm System

The system provides an interface between the Water Group alarm system and the AGS/RHIC alarm system.

Operational Overview

Equipment located throughout the complex is connected to alarm dialers. Each dialer is uniquely identified by a three-digit number.

Alarm dialers communicate pump room alarms/resets to one of three Sur-Gard MLR2 alarm receiver chassis using the lab telephone system. MLR2 chassis are located in the MCR, building 940, and building 930, room 104. Each pump room alarm/reset is uniquely identified by an alarm code of the form XXX-H, where XXX is the alarm dialer ID and H is a hexadecimal number identifying the alarm or reset. Alarm dialers first attempt to call the MCR or 940, depending on the position of the key switch at MCR 1-1, then fall back to building 930 if the call is not received.

The MLR2 chassis forward the alarm codes to [Sena HelloDevice LS100](#) serial-to-ethernet converters over an RS-232 serial connection. The LS100s have been assigned IP addresses dicomchassis.c-ad.bnl.gov, 940dicom.c-ad.bnl.gov, and 930dicom.c-ad.bnl.gov. The LS100s forward the data to the computer program PumpRoomServer over the C-AD network. PumpRoomServer retrieves alarm names and descriptions from mcrDatabase on OPSYB1 and forwards alarms to the controls AGS alarm system. All pump room alarms are level 4 or 5; they therefore cannot be masked and provide an audible alert to Operations.

Troubleshooting

Symptom	Cause	Solution
PR alarm XXX-H , Consult documentation	An alarm with code XXX-H was received but not found in the database.	Report the alarm code immediately to CAS, and inform PFI.
PR database, Unable to access	PumpRoomServer was unable to connect to mcrDatabase on OPSYB1.	Check that the database is accessible.
PR address , No connection	PumpRoomServer was unable to connect to the LS100 at address over ethernet.	Wait a few minutes, as PumpRoomServer will automatically attempt to reconnect at regular intervals. Check that address is pingable.

MLR2 chassis beeping

The MLR2 has lost communication with PumpRoomServer

Check that PumpRoomServer is running using StartUp. Restart if necessary. If PumpRoomServer will not start, contact Controls for support and fall back to reading alarm codes directly from the MLR2 display.

System Diagram

